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## PATENT SPECIFICATION

DRAWINGS ATTACHED

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## COMPLETE SPECIFICATION

## Improvements in or relating to the Manufacture of Frozen Confectionery

I, JACK OLDHAM, a British Subject, of Bovay Works, Bovay Street, Holloway, London, N.7., do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to the manufacture of frozen confectionery and is concerned more particularly, but not exclusively, with the production of confections commonly known as "ice-lollies" in which a frozen block of the confection is mounted upon a carrying stick or splint.

It has been proposed to produce frozen confections having a core of one colour disposed within an outer shell of a different colour. However, there is a tendency for the confection of the core to merge into the confection of the outer shell and as a result it may be difficult or almost impossible to distinguish the colour of the shell from that of the core and this detracts from the appearance of the product.

The invention provides a method for the production of frozen confectionery, wherein there is inserted into a mould a removable hollow partition adapted to divide the mould into at least two sections for the reception of a first confection material to be frozen and wherein, after the freezing of such confection material, the partition is defrosted and removed from the mould to reveal a pocket or recess, said pocket or recess being charged with a second confection material and the whole subjected to a further freezing operation to produce a frozen product of multi-sectional form.

The invention further provides frozen confectionery produced by the method, and moulding apparatus for use in carrying out the method.

For a better understanding of the invention and the method by which it is to be performed, an example thereof will now be described, with reference to the accompanying drawing, in which:—

Figure 1 is a fragmentary side view in longitudinal section of one form of apparatus, and

Figure 2 is a plan view taken along the line II—II of Figure 1.

Referring to the drawing, the apparatus according to the example is intended for use in the manufacture of ice-lollies, the apparatus including a composite mould, a part of which is indicated generally at 1, the mould having an upper substantially rectangular tray 2 provided with a flat base 3 from which depend a plurality of individual moulding cells, one of which is shown at 4. The cells are conveniently arranged in parallel spaced apart rows extending longitudinally and transversely of the tray. The cells are open at their upper ends for the reception of fruit juice or other liquid preparation to be frozen.

The tray, including the base 3, and the individual moulding cells 4 are formed of sheet metal, each cell having two opposite side walls 5,6, two opposite end walls 7,8 and a bottom wall 9.

The apparatus comprises also, for insertion into each mould cell, a hollow core or partition element 10 which is formed also of sheet metal similar to that employed in the construction of the mould and which is so shaped that, when located across the middle of the cell, two opposite walls 11,12 of the partition element will bear snugly against the adjacent side walls 5,6, respectively of the moulding cell and the bottom 13 of the partition element will engage the bottom 9 of the cell.

Since in the present example, a plurality of the moulding cells is fitted into a composite mould, a corresponding plurality of the hollow partition elements 10 is mounted upon a support frame part of which is shown at 14, the support frame being substantially rectangular in form and adapted to be fitted into the upper tray of the mould. Each partition element is supported from the frame 14 by an associated tie member 15. The arrangement is such that by lowering and raising the frame 14, the several partition elements can simultaneously be inserted into, and removed from, the several moulding cells of the composite mould.

For an initial freezing operation, a first solution to be frozen is poured into the mould so as partly to fill each moulding cell. The first solutions may be coloured red. Conveniently, the amount of the first solution employed will be such as approximately to half-fill each cell. The frame 14 and the depending partition elements 10, are then lowered into the mould so that each partition element is located across the middle of its associated cell and the solution poured into the cell is caused to rise at opposite sides of the partition element until the solution is at, or just below, the level of the open mouth of the cell. The prepared mould is then subjected to the initial freezing operation so as to freeze the first solution in the cell at opposite sides of the inserted partition element.

A defrosting medium, such as hot air or liquid, is then passed into the interior of each partition element 10 so as to release the element from the frozen confection material and to permit the partition element to be withdrawn from the moulding cell, upon upward movement of the frame 14. This reveals in each cell a pocket or recess corresponding in shape to the partition element and disposed between the two frozen sections 16, 17 of the first solution.

A second solution of confection to be frozen, is then poured into the pocket or recess of each cell. This second solution may be coloured green, for example. The whole is then subjected to a second freezing operation and during this operation, a stick or splint is supported in the centrally located pocket containing the second solution. In this example, the carrying sticks for insertion into the several moulding cells are supported in an upright position depending from a stick holder having relatively displaceable members which are adapted to grip and to hold the sticks in position during the second freezing operation. Following the second freezing operation, the mould is subjected to a defrosting action so that all of the frozen confections carried by the sticks depending from the stick holder, can be withdrawn

from the mould cells by upward movement of the stick holder.

It will be appreciated that each frozen product prepared in accordance with the present example, includes three side-by-side sections extending from top to bottom of the frozen block, the two outer-most sections being formed of the first liquid coloured red, and the intermediate section being formed of the second liquid coloured green. Along the outer sides of the frozen block, the faces of the three sections will be in substantial register in coplanar relationship so that the contrasting colours of the several sections will be clearly visible from the exterior of the product and the dividing lines between the different sections will be clearly defined.

In the illustrated example, the frozen product has three sections of different or contrasting colours but it will be understood that the number of sections may be varied as desired, according to the form of the partition element inserted into the moulding cell for the initial freezing operation.

#### WHAT I CLAIM IS:—

1. A method for the production of frozen confectionery, wherein there is inserted into a mould a removable hollow partition adapted to divide the mould into at least two sections for the reception of a first confection material to be frozen and wherein, after the freezing of such confection material, the partition is defrosted and removed from the mould to reveal a pocket or recess, said pocket or recess being charged with a second confection material and the whole subjected to a further freezing operation to produce a frozen block of multi-sectional form.

2. A method as claimed in claim 1, wherein for the initial freezing operation, the partition is located substantially medially across the associated moulding cell so as, when withdrawn, the pocket or recess is disposed between two frozen sections of the first confection material.

3. A method as claimed in claim 1 or 2, wherein a carrying splint or stick is supported in the recess or pocket during said further freezing operation.

4. A method as claimed in any preceding claim, wherein the first confection material is coloured red, for example, and wherein the second confection material is of a different colour, for example green.

5. A method as claimed in any preceding claim, wherein the hollow partition is defrosted by the passage of heated air or liquid into the partition.

6. A method for the production of frozen confectionery substantially as hereinbefore described with reference to the accompanying drawing.

7. Apparatus for carrying out the method as claimed in any one of the preceding claims, said apparatus comprising a mould,

- having a cell or cavity for the reception of a first confection material to be frozen, and a hollow partition adapted to be inserted into the mould cell or cavity during a first freezing operation, and to reveal, when withdrawn from the mould, a corresponding pocket or recess for the reception of a second confection material to be frozen during a further freezing operation, said partition being adapted to receive heated water or other medium for the defrosting of the partition and removal thereof from the mould following the first freezing operation.
- 5 8. Apparatus as claimed in claim 7, wherein the mould comprises a plurality of individual moulding cells depending from an upper plate or tray, and wherein a like plurality of the hollow partitions are carried by and depend from a common support so that
- 10 said partitions can simultaneously be lowered into corresponding moulding cells for the first freezing operation, and can simultaneously be raised from the moulding cells after defrosting of the partitions.
- 15 9. Apparatus as claimed in claim 8, including a stick holder having means operable to receive and to grip a plurality of depending sticks or splints, said holder being adapted to be lowered into the mould so as, during the further freezing operations, to support a carrying stick or splint in the recess or pocket of each moulding cell, said stick holder being adapted also to be raised from the mould, after the final freezing operation and defrosting of the frozen products, thereby simultaneously to remove from the moulding cells, the frozen products carried by the sticks or splints.
- 20 10. Apparatus for the production of frozen confectionery, substantially as hereinbefore described with reference to and as illustrated in the accompanying drawing.
- 25 11. A frozen product when produced by the method as claimed in any one of claims 1 to 6, or when produced by apparatus as claimed in any one of claims 7 to 10.

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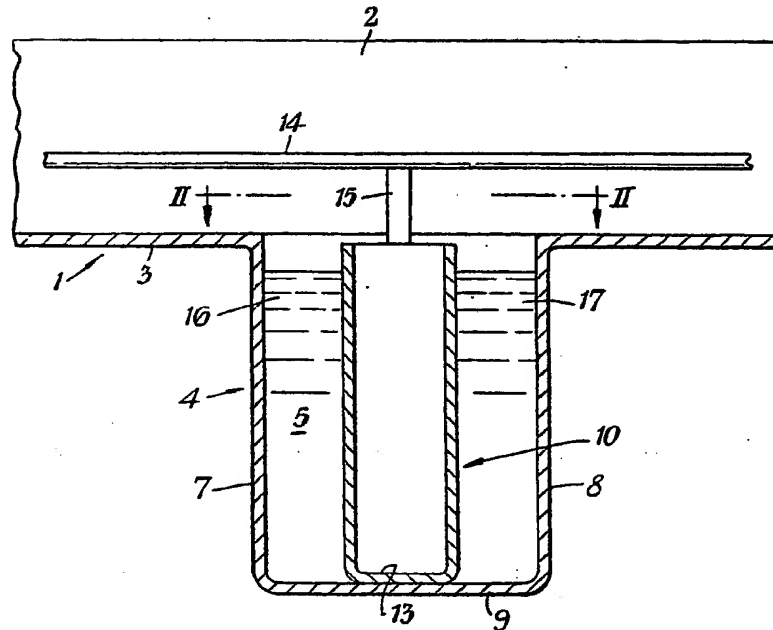


FIG. 1

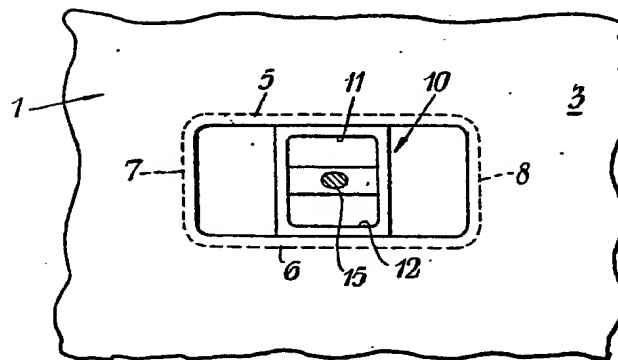


FIG. 2